

ABSTRACT

The present invention provides zinc-free glass frits that can be used to formulate glaze compositions that develop glossy surfaces when fired on ceramic products such as floor tile and wall tile. The zinc-free glass frits include, by weight, from about 50% to about 70% SiO_2 , from about 5% to about 20% CaO , from about 3% to about 15% Al_2O_3 , up to about 20% BaO , up to about 15% B_2O_3 , up to about 10% K_2O , up to about 10% Na_2O , up to about 10% ZrO_2 , up to about 5% MgO and up to about 5% PbO and less than 0.5% ZnO . Glaze compositions comprising the zinc-free glass frits can be fired using conventional double fast firing, single fast firing, and *gres porcellanato* ceramic firing cycles.